

County Borough



of Wolverhampton.

ANNUAL REPORT

UPON THE

HEALTH OF WOLVERHAMPTON

FOR THE YEAR 1891.

WOLVERHAMPTON:

JOHN STEEN AND CO., PRINTERS, QUEEN SQUARE.

MEDICAL OFFICER'S REPORT,

1891.

PREVALENCE AND PREVENTION OF INFECTIOUS DISEASE.

The following Diseases are now notified to us under the Act of 1889; “small-pox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina or scarlet fever, and the fevers known by any of the following names, typhus, typhoid, enteric, relapsing, continued or puerperal.” Many cases of measles are heard of through our own Inspectors or the school Teachers and Inspectors. The diseases entered in Table No. 1 are recorded, and also small-pox, of which however we have had no case since 1886. Cholera, typhus, and relapsing fever have been for many years unknown in the Borough.

Measles.—Our Quarterly numbers of cases of Measles since 1884 have been as follows—

	1884.	1885.	1886.	1887.
Cases	272, 710, 143, 2; 4, 2, ..., 17; 21, 9, 189, 959; 124, 17, 31, 22;			
Deaths	11, 66, 20, 1; 1, ..., ..., ...; ..., ..., 8, 103; 19, 4, 7, 1;			
	1888.	1889.	1890.	
Cases	119, 149, 166, 435; 150, 228, 78, 141; 68, 45, 139, 230.			
Deaths	9, 6, 5, 19; 10, 11, 11, 8; 3, 10 5, 14.			
	1891.			
Cases	73, 4, 11, 275.			
Deaths	5, ..., ..., 20.			

The rather severe onset during the Last Quarter of 1890 rapidly passed off during the First Quarter of the present year, and during the Second and Third Quarters there was the most complete remission we have had since 1886. In our Fourth Quarter, many cases were heard of in the Steelhouse Lane and Bilston Road neighbourhood, later, the disease extended in the Horsley Fields, Springfields, and Stafford Road direction; showing a tendency to follow the same course as several former Epidemics, round the town from East to North to West to South; contrary to the direction of the sun. There is nothing to add to what has been said in former Reports, (especially last year's) except that, considering the Disease apparently commenced in a rather scattered part of the Borough, and at first principally affected the children attending the All Saints' Schools, I felt that it would be right to close those Schools. I have not had much faith in the efficacy of this measure in a crowded town, but, in deference to better opinions, felt bound to try it; especially as the affected area was not a crowded one; I don't think the closure was effected anything like early enough, partly through our information of the first cases being late, and partly from other reasons; but even so, as far as I could judge, the effect was beneficial; the subsequent spread being I thought less than usual. Later, as the extension occurred, I closed the Infant Schools at St. James's, Walsall Street, and Bilston Road, with apparent benefit; this being certainly less than might have been, through delay in taking action.

As usual our information has been very casual, many of the cases being heard of very late; only a small minority had any medical attendance. The direct fatality gives only a partial idea of the real mischief done, we had a terribly heavy return from respiratory diseases during the Fourth Quarter, and to this, Measles certainly contributed largely. Unfortunately the great majority of the public still retain the notion that a child had better "get Measles and have it over;" they fail to realize the risk so incurred to the individual child, and the injury done to others by making a fresh centre for infection to spread from. The deaths returned as directly due to Measles are greater than those due to any other Zymotic except

Diarrhœa, and if we could take account of the deaths indirectly due, Measles would probably appear as fatal again as it is, see final column of Table 9. I see, however, no reason to alter the opinion, expressed in last year's report, as to the uselessness of incurring the expense of adding Measles to the diseases compulsorily notifiable. Of the 363 cases heard of by us this year, only 83 had medical attendance, a very few of these were parish cases, the others were amongst the best to do of those reported; the hearing of these few cases a little earlier than we did, and the hearing of some more cases amongst the wealthier classes, would have helped us nothing. The greatest need we have is to get the earliest information of the initial cases, especially amongst school children, or in the families of those attending school; unfortunately these early cases are just those mild ones which are rarely seen by a doctor; more especially amongst the classes attending the Board and National Schools. Medical Notification of Measles would not benefit us anything like so much as careful and prompt information from the schools of the earliest *suspicious* cases amongst the scholars; this, by enabling us to prohibit attendance from such households, and to advise them about the care needed, would greatly lessen the facilities for extension; and would not only do away with the chance of school closure being required, but would greatly reduce the numbers detained from school through Measles in their homes. There would still remain unheard of, except casually as at present, cases amongst children not attending school; nothing will help us as regards these cases except a greater general intelligence and conscientiousness. The majority of people are not only strangely blind as to the seriousness of most infectious diseases, but most inhumanly careless of the rights of others, and this carelessness is confined to no class; this is to my mind the real argument for Measles notification, it would enable us to see that proper vigilance was exercised in more cases, and strengthen the hands of the doctor in enforcing such, for even amongst those who have ample means and opportunity for taking proper care there is, too often, the grossest neglect. I do not think at present, that this argument is enough to justify the incurring of the necessary expenditure.

Scarlet Fever.—During the Third and Fourth Quarters of 1890 we had a severe onset of Scarlet Fever; indeed, except for our Hospital isolation, there would undoubtedly have been an epidemic; the numbers of cases reported were 171, 186. The reported cases became rapidly fewer towards the close of the year; and this state of things continued during the first Three Quarters of the present year, when only 81, 84, and 90 cases were heard of. This is scarcely more than what we should expect as an average ordinary prevalence of Scarlet Fever in a District like ours. In the last few weeks of the Third Quarter the reported cases became more numerous; they still further increased in the Fourth Quarter, when the disease again assumed would-be epidemic proportions; the type became much more virulent, and the deaths more numerous. See Tables 1 and 9. The following Table exhibits some other details.

QUARTERS.		1st	2nd	3rd	4th	Year.
EAST	Cases	25 ^a	31 ^b	35 ^a	63 ^a	154
	Total					
	Deaths	1	2	1	3	7
WEST	Cases	20	25	30	46	121
	Removals					
	Deaths	1	..	1	1	3
WEST	Cases	59	53 ^a	55 ^a	98	265
	Total					
	Deaths	1	...	1	5	7
WEST	Cases	46	42	44	57	189
	Removals					
	Deaths	1	...	1	4	6

a.—One of these cases was taken by friends to the General Hospital.

b.—Two of these cases were taken by friends to the General Hospital.

It is doubtful if the apparent preponderance of cases in the West is quite correct ; probably there are many more slight overlooked cases in the East than in the West ; the equality of the deaths would also suggest the difference is less than appears.

Amongst so many cases the instances of negligence and ignorance are so numerous as to make any selection of types difficult. We have had numerous small localized outbreaks due to these causes ; in no previous experience of ours has the preventable nature of the disease been so apparent, because we happened to be able to trace the direct infection in many more cases than usual, and were thus enabled to see that the isolation of a few initial cases would have reduced our total to about one-fourth of what it is. It is useful to give some instances of our difficulties, they will show how very much greater perfection could be attained in limiting such a disease, if only all were able and willing to help. The points mainly illustrated in the following examples are, ignorance and carelessness on the part of some of the public ; inefficiency of much home isolation, insufficient recognition of the dangers of infection by some few (I am thankful to say very few) medical men ; the great loss we have in not hearing of and being able to have isolated all cases early enough. Two other points not so directly, but still, concerning us are, the great readiness with which infection is conveyed in certain instances, and the peculiar idiosyncrasy that some families appear to have to take the disease.

E. C. found peeling freely, had been ill a month previously, a chemist supplied medicine ; lodgings let at the house.

M. L. ill about a fortnight back ; E. L. five days ago ; no doctor ; some children from here now attending school ; visitors in the room with the sick children who are peeling ; mother denied their having had scarlet fever.

J. M. relative of above, taken ill since at a small grocer's shop, another child then attending school.

F. E. S. only child in four-roomed house ; with grandparents, who were unwilling for removal ; there was gross negligence ; and L. T., whose mother did washing at above house, took scarlet fever.

Mother had been visiting Droitwich at a house where there was Scarlet Fever, and brought two of the children (not supposed to have had it) home. E. E. S. got the fever, and also F. B., who was playing with these children.

E. B. had visited relatives at a distance where there had been Scarlet Fever and a death from it.

W. M. ill on March 27; T. M. and H. M. on April 11; E. M. and M. M. on April 27, no doctor; all peeling freely on May 11, when W. M. and H. M. were both attending school, W. M. had only been absent from school for a fortnight (during the Easter holidays); H. M. had been attending for the last week. Mother had obtained medicine from a chemist; she "knew it was Scarlatina, but did not think it was Scarlet Fever."

K. J. pupil teacher at above school, was sent to inquire into the absence of some scholars, amongst others the above, and took Scarlet Fever.

M. W. ill on April 25, mother thought Measles; F. J. W. ill on April 28, F. W. on May 2, C. W. on May 3; last three cases seen by a doctor, and reported as Scarlet Fever; on May 4, moderate-sized house, and a Pork Butcher's shop! inspector called on May 4, and found M. W., who was downstairs, peeling freely; had nearly persuaded the mother to allow removal to Hospital, when the doctor came in and said it was unnecessary; the Inspector drew his attention to M. W., and he reported that case as Scarlet Fever next day. Three weeks later, when of course the children would be still peeling freely, and highly infectious, this family left the house surreptitiously through being in debt; we could learn nothing of their further movements.

A. S., only child in a roomy house, taken ill on June 17, when we offered to disinfect after the case was over, we were informed it was not required, as their doctor had disinfected the things for them (we do all disinfections gratis). The bed which A. S. had used was later exposed for sale at a public sale room, not being sold it was taken to a hotel in the town, where O. S., younger brother of A. S., slept on it; this lad almost immediately took Scarlet Fever.

A. B. ill on August 6, J. B. on the 9th, C. B. on 10th, M. B. on 11th; six other children in the house, one teaching at a school, another engaged as shop assistant. The doctor (same as in last case) said no need to move these children. Two children next door took the Fever, and our Inspector persuaded the parents to allow of the removal of all the cases. Two other cases a few doors away were exposed to the same source of infection.

L. J., No. 44—St., taken ill on Aug. 13, seen by a doctor's assistant, and pronounced German Measles; Inspector Hodges found afterwards and suspected peeling, later this was undoubted; at a tobacconist's shop, and no care whatever taken; after much difficulty removed to Borough Hospital on the 27th. Careful inquiries were repeatedly made in the neighbourhood and all illness denied. On Sept. 26, the Inspector found M. D., No. 42—St., peeling freely, having been ill since Sept. 5; been attending school since 12th, was now out on an errand. Same day he found M. C. and J. C., No. 41—St., both peeling; ill about Aug. 22, had a red rash, mother thought a cold. One of these children was in a neighbour's house with many children. Same day the Inspector found A. B., No. 43—St., peeling freely, ill since about Aug. 26, was at school the same as M. D.'s for the last week. On Oct. 8 the Inspector found A. L., residing at some distance from—St., but attending same school as M. D. and A. B., in a neighbour's house and peeling freely, had been ill on Sept. 25, and kept from school for two weeks because her parents thought she had Scarlet Fever; her sister, L. L., was taken ill on Oct. 2, was now out on an errand, found to be peeling freely. Not the slightest care was taken here. None of these cases (except L. T.) had been seen by any doctor. Another case was found peeling by Inspector Hodges, which was from the same school, and had been taken ill on Oct. 15.

N. L., child of fairly well to do people, taken ill on Oct. 7, mother thought with measles, no doctor. A brother, F. L., used to amuse himself rubbing this child's legs to see the skin fly off them, which the mother was aware of. On October 19, the father, T. L., was taken ill, and on the 23rd two brothers, F. L. and C. L. The father resumed work (of a public nature) after four weeks isolation, being allowed to do so by two medical men.

A. K., lad aged 16, no other children; mother refused to allow removal; four-roomed house, isolation with great care would have been just possible. Inspector frequently called to watch the case and warn them of the care needed. After about six weeks, the Inspector calling found all the furniture had been sent to Cardiff, and the lad and his mother were just about to go off by train; on my seeing the case I found he was still peeling on arms and legs, and insisted on his then being removed to the Borough Hospital, where he remained until desquamation was complete. After he had left we heard that during the latter part of his illness at home he was in the habit of frequenting a neighbouring Public House.

S. E. P. and A. P. ill on May 14, E. P. on the 26th; no doctor; mother thought Measles. In consequence of other cases Inspector called on June 9, all

the children peeling freely, kitchen full of washing, which the mother took in; E. P. in the kitchen; A. P. gone to fetch soap; S. E. P. playing in the streets. Two other cases were directly traced to these children.

F. M. J. ill a fortnight when reported, at first mistaken for Influenza, but now peeling. Fair chance of isolation, but there is a shop in which the mother and grandmother, who nurse the child, often attend. Consent would have been obtained for removal, but doctor hindered. Seven days later a sister, E. J., taken ill; and nineteen days later the first child was out of doors, apparently herself well, but still living in the same room with the second case. They said the doctor allowed this child to go out.

A married daughter, whose child had been one month ill with Scarlet Fever, came and stayed a night at her mother's; four of her brothers and sisters took Scarlet Fever in rapid succession.

On account of a number of cases occurring in one Court and its vicinity, repeated inquiries were made at a house and all illness denied, on July 20th, the Inspector found R. R. peeling freely, and playing with other children, the mother then allowed that this child had been ill three weeks ago; a sister, M. R., had been ill a fortnight; M. R. and another child had been attending school all the time, at least seven other cases were due to these.

Several of the more flagrant cases, both of failure to report Scarlet Fever, and of exposing infected persons have been prosecuted and convicted.

It might almost seem that, in the face of such negligence as is indicated above, it was useless trying to do anything; and yet these instances really show what an amount of good is done; considering that the majority of the 109 cases detained at home were in well to do houses and well isolated, it will be seen, these instances of neglect occur in a small number, and really amongst the very class whom many of the 310 Hospital cases were from; the rest of these Hospital cases being from surroundings far worse than any of those instanced. It can be imagined then how universal infection would be had all these 310 cases likewise remained at home; we can easily understand the 226 deaths of 1877 occurring under such circumstances. We have now passed through three years of extra prevalence of Scarlet Fever, and the total deaths in that period have

been 33; the deaths in 76, 77, and 78, totalled 324. It is impossible to estimate the gain that this means to the community. The whole matter is more fully dealt with in last year's report. At the close of this year we had only fourteen cases of Scarlet Fever in eleven different centres, outside of the Borough Hospital.

Diphtheria.—The deaths (see Table 9) are below the average; there are ten more cases reported than last year. There is enough uncertainty about the diagnoses of many cases of Diphtheria to make the returns rather unreliable. The most remarkable circumstance is the difference in the Sub-districts, see table 1, East 8, West 25; this may also be, in some degree, due to peculiarity of individual medical opinion; for instance, in the First Quarter the seven cases in the West were all returned by one practitioner, whose practice is nearly all in that Sub-district; there was only one case in the East. In the Second Quarter there were four cases in each Sub-district, three in the West and one in the East being returned by the same practitioner above, the other four each by different men. In the Third Quarter there were six cases in the West, three from above practitioner, the other three each by different men. In the Fourth Quarter there was less peculiarity, the eight cases in the West and three in the East being, three from above practitioner, three from another and five from different men each. Out of the total thirty-three cases, seventeen were returned by one doctor, three by another, two by another, two by another, the remaining nine each by different men. About twenty-one men in general practice in the Borough made no return. The fact, however, that there are four deaths in the West to one in the East confirms the difference in cases. The eight cases in the East were all separate, in five no definite cause was found; one was at very filthy premises, one may have been due to a bad escape of sewer gas from a soil pipe in the yard, one was attributed to a foul ashpit which the patient a child had been playing about. Of the twenty-five cases in the West, twenty were separate cases; three were in one house, two occurred in the First Quarter, and there was then defective cellar drainage, the third occurred in September and was not at all accounted for; two were

in another house the second nine days after the first; no possible cause was made out. Of the twenty separate cases, in eight no cause whatever was found; two cases were taken ill away from the town. In only two was definite cause made out; in one case the sink drain was in direct communication with the sewer, and the patient, a servant, constantly close over it; in another there was very free escape of sewer gas into the cellar; and this was un-ceiled so that there was free communication with the living room above. In the eight remaining cases there were various defects, such as; offensive sink drain through being in rough brickwork, three cases; felt sick from stench of open sewer when out walking, dirty pan-closet close to house, offensive soft-water tank, offensive manure heap, filthy premises; but no definite cause.

Typhoid Fever.—We have more than double last year's rate of reported cases, see table 1, last year's rate per 10,000 of population was 5·2, this year 11·8; last year the rates in the Sub-districts were East 5·5, West 4·9; this year they are East 8·7, West 14·6; so that the increase is in both Sub-districts; but there is a heavy preponderance in the West. Our deaths this year (15) are also above the average for ten years (9·4), and in the Sub-districts is about in proportion to the number of cases, East 6, West 9. The Quarterly distributions of cases and deaths is singular; see table 1, and 3; the subsidence in the East and rise in the West in the last two Quarters is very peculiar. As usual we can tell next to nothing about the causes of these cases; very few are associated; most heard of rather late. Of the thirty-four East cases the only associated ones were, three in one house, taken ill successively at intervals of from one to two weeks, premises excessively filthy through lack of water from the frost. Six other cases were in three pairs, the second case each time succeeding the first at a few week's interval; no definite primary cause in any instance. There was no connection found between any of the remaining twenty-five cases, seventeen of these were quite unexplained. The remaining eight were associated with bad drainage defects (3); bad well water (2); dirty pan-closet; offensive ashpit;

bad cesspit closet ; one each. Most of the cases were from the poorest districts ; none of them from best-class property. The only connection between cases is such as suggest rather direct infection from one another than infection from a common cause.

Of the sixty-four cases in the West thirty-nine were from the Salop and Brickkiln Street vicinity. These were grouped as follows, six in one street, two pairs and two single cases ; six in one yard, two in one house and four in another ; four in another home ; two threes ; three twos in different homes ; the only common factors in any of these cases were dirt, squalor, and vicinity ; two other cases living at a distance were associated with a filthy closet at works. The other nine were quite separate, five no cause found, four were associated with bad drainage or closets. Twenty-five cases were from rather better class areas ; the only connected cases were three which occurred consecutively in one house, where there was suspicious pump water and bad drainage. Of the remaining twenty-two cases, two came ill from outside ; one followed a bad back poundage of sewage into the cellar ; two were associated with suspicious well waters ; three with bad drainage ; two with filthy pan-closets ; one with a water-closet flushed by hand ; eleven were quite unexplained. There are only two points calling for special comment ; first, the number of cases which, through being in the same house apparently were, or may have been, infected directly from the first case ; because the infection of Typhoid Fever is only contained in the bowel discharges many seem to think there is no need for care ; these discharges are allowed to soil bed clothes, &c., and drying on these crumble off and get about in the atmosphere as infective dust ; this could be prevented by very ordinary care. In the second place the connection of this disease with foul and low-class premises is very marked ; we now know that the germs of Typhoid Fever may propagate on vegetable refuse, and this suggests that many of our dirty and ill-kept properties may in literal truth be breeding places for Fever. I will recur to this again.

Diarrhœa.—Our returns are considerably above the average; see table 9; there was not a severe Summer epidemic; but the fatality continued for a long period; extending well into the last Quarter; see table 3. It was not apparently associated with our highest mean temperature; nor much with a high maximum temperature, see table 4 with above. It is noteworthy that we had a heavy and late crop of stone fruit.

Whooping Cough.—This Zymotic was fatal during the last Quarter, and very prevalent at the close of the year; it prevailed at first in the West, where it caused five deaths in the Third Quarter; during the Fourth Quarter it appeared to be very general; see tables 9 and 3. We have no precise information about cases of Whooping Cough, which of all infectious diseases is probably the most difficult to deal with in private, and the most out of reach of public control; it is very much to be regretted that more effort is not made by individuals to limit its spread; it stands third on the list of Zymotics as causing fatality in Wolverhampton, see last column of table 9.

Influenza.—We had a severe visitation of Influenza during the Second Quarter; it was not, as far as can be judged, so extensive as in the Spring of 1890, but it was of a far severer and more fatal type; in 1890 it, directly, only caused six deaths; this year it caused thirty-two, twenty-five being in the Second Quarter. There appeared to be no more regard paid to its undoubtedly infectious character than formerly.

BOROUGH HOSPITAL.

Our accommodation for patients at the Borough Hospital at the beginning of the year consisted of the old pavilion containing two wards; a wooden annexe containing two small wards; and a Doecker pavilion of two wards. In November, the new pavilion containing two large and two single wards was ready for use, and

discharging rooms, (bath and dressing rooms) were provided at the entrance buildings. We have (as usual in the absence of small-pox) only used the Hospital for Scarlet Fever. The quarterly numbers dealt with have been as follows :—

Quarters.		Remaining in from previous quarter.	Total Admitted.	Total Discharged	Died.	Average No. of days in of the cases Admitted.
First	...	45	70	83	2	49·6
Second	...	32	67	66	...	43·6
Third	...	33	76	61	2	45·8
Fourth	...	48	108	103	5	50·2
YEAR	..	45	321	313	9	47·3

leaving 53 cases in at the close of the year. Six of the admissions were from the Tettenhall Urban District.

Duration of Stay in Hospital.—The average time in for the completion of desquamation (which indicates freedom from infection), in a case of Scarlet Fever is 7 weeks; but there is considerable deviation from this, very young children with thin skins often peeling much more rapidly, and elder ones often being very tedious. Our average duration of 47 days is a very long one, as it includes many cases that were only a short time in, either having been ill some time before admission, or being admitted through error; or, in a few cases, proving quickly fatal. The long average is due to many causes. The desquamation has certainly been unusually prolonged in most of our cases, forty-six cases were detained from this cause only; their average stay in Hospital was eight weeks, and all had been ill for varying periods before admission; the longest case of uncomplicated desquamation was eleven weeks. The prolonged stay was further due to troublesome complications, of which the following were the principal—

Complications.—Troublesome nasal ulceration occurred in seventeen cases, all were much delayed in consequence, the longest was twelve weeks in Hospital. Severe otorrhœa occurred in five cases, the longest stay was eight weeks. In six cases the convalescence was very slow owing to the extreme severity of the illness. In two cases convalescence was delayed by severe pneumonia, one of these was in fourteen weeks. Rheumatism was unusually common, it was severe in ten cases and caused delay in four, the longest detention was nine weeks. Bad kidney complications occurred in five cases, one fatal; the longest detention was seventy-four days. Abscesses were uncommon, only occurring in four cases, (one fatal), the other three were greatly delayed.

Casualties.—In the Fourth Quarter, Chicken-pox broke out, and, although every patient was promptly removed to the separation ward, we had eighteen cases in all; this is the principal cause of the extra long duration of the cases in that Quarter. We could not ascertain how it was introduced. One case, after being thirty days in developed Measles, and seven days later another case occurred; each was at once removed to the separation ward, and there were no further cases. The source of infection was not traced. Two children were found to have Whooping Cough after their admission, they were separated, and no extension occurred.

Only nine cases were admitted which proved not to be Scarlet Fever; this is a very small proportion of wrong cases, but there were also several cases reported as Scarlet Fever and not removed to the hospital through being errors. A period frequently intervenes between the fading of the rash and the commencement of desquamation, during which, a certain diagnosis is scarcely possible; one has to judge of such a case from the history one receives from relatives and from its surroundings, and if there are reasonable grounds for supposing it to be Scarlet Fever, it is very important to at once remove the patient, who, if the suspicion is correct, is highly infectious. It is of course a pity to admit such a case amongst undoubted Scarlet Fever, hence the importance of having a quarantine

ward, where dubious cases can be retained until the result certifies them. Even without such a ward one often has to admit cases that are reported in doubt or error, and in former years we have too often found such cases taking Scarlet Fever after admission. We have now got one of the wards in the wooden annexe as a quarantine ward, even such a ward is not free from risk, as it may contain true cases, but the risk is very slight, as the patients are confined to bed and kept carefully apart. All our nine erroneous cases went out without any mishap.

We had a few hardly avoidable mischances which are instructive enough to record. A case was admitted on May 5th, certified as Scarlet Fever, from small premises where there was a general dealer's shop; there being some doubt about the case it was quarantined, the neck began to peel freely and the case was transferred to the wards; on May 29th, every signs of fresh Scarlet fever; desquamation was complete on July 9th, 41 days after second attack, 67 days after reputed illness. This neck peeling may have been due to some application made before admission, but it is possible the case may have been true Scarlet Fever from the first, and the 29th of May a second attack; for the period of 41 days from this attack was a rather short one for desquamation to be complete in a child eight years old. We had a few instances of such apparently second attacks; the following are two.

Case 234; a sister had died (in the Borough Hospital) from Scarlet Fever; just after her illness, this lad was reported; he was admitted on October 21st, peeling freely; on November 1st, had all the signs of a smart attack of Scarlet Fever; peeling was not complete until nine weeks after this second attack.

Case 237, aged five years, certified to have Scarlet Fever on October 21st, admitted on October 25th; all signs of fresh attack on October 28th; peeling completed on December 4th, forty-four days since first, thirty-seven since second attack.

A very annoying mistake was made in another instance; Case 54, certified as probably Scarlet Fever, transient rash; admitted to quarantine ward three days after reported rash; no signs then; detained for fifteen days, and no signs of peeling detected by frequent careful examination; discharged, being then eighteen days since rash; two days later peeling began on the neck, and he had to be re-admitted, having infected two brothers; desquamation was completed sixty-one days after the rash was reported.

In too many instances we had infection apparently conveyed home by discharged patients. The following is the list.

Case 61.—Fifty-four days in Hospital, another case occurred sixteen days after return home.

Cases 75 and 76.—Fifty-one and forty-nine days in Hospital, another case ten days after their return home.

Case 120.—Forty-seven days in, another case three days after return home.

Case 119.—Forty-three days in, (fifty-five days since rash), another case seven days after return home.

Case 136.—Forty-three days in, (fifty-four days since rash), fresh cases, five and nine days after return home.

Case 185.—Fifty-one days in, fresh cases four and five days after return home.

Case 199.—Forty-six days in, another case two days after his return home.

Seven cases of such disaster is not a large number out of over three hundred discharged; it is however more than ought to be, but I believe these accidents were almost altogether due to our very deficient means of discharging patients; they had to be bathed and re-dressed either in the ward bath room (where all the incoming, and other cases were bathed), or in the nurses bath room in the wooden annexe; in either case there was risk of themselves or their clothing being re-infected. The same thing was liable to happen while they waited for their friends to take them away, in case the latter were, as often happened, a little late; for we had then no waiting room. In November, we had the required rooms in the entrance buildings, and there has been no similar accident since; and such now ought to be of the greatest rarity.

In a few instances, children were actually brought to see patients at the Borough Hospital, and, owing to the confusion arising from building operations, and to the absence of the Matron, obtained entrance to the grounds; we had three cases of infection apparently from this cause.

A deplorable blunder was committed by a girl who had been wardmaid at the Borough Hospital; she left, and her clothing was stoved, but a woollen shawl, which she had used as a wrap in the wards, was, by some mischance, taken home without this precaution; five of her brothers and sisters were rapidly taken with Scarlet Fever; all were admitted to the Hospital.

Amount of Work.—The quarterly numbers of admissions, &c., only gives a rough idea of the amount of work done, this depends more on the nature than on the number of the cases; we have never been in such a state of overcrowding as during the greatest pressure in 1890; but I believe there has been much more work done this year. During the First Quarter all pressure, as regards numbers and accommodation had ceased, but many of the cases admitted were of a severe type, and the work in consequence only a little less than before. Next Quarter, there was no falling off in the work, the cases were very severe, and their ages greater. During the Third Quarter, the work was less; but again increased in the Fourth, we had more cases, severe type of disease, and a greater average age; the work being, I believe, more than at any time previously. The outbreak of Chicken-pox further increased the difficulties. On the night of December 10th, there being then seventy-five patients in the Hospital, twenty-five of these, all convalescents, and two nurses, being in the Doecker Pavilion, the latter was partially unroofed and otherwise damaged by a very severe gale. The new Pavilion was fortunately ready for occupation, although the furnishing was incomplete, and the patients were transferred to it. This was done with such promptitude and care, that, in spite of the storm and the cold and darkness, not one of the patients suffered in the slightest degree, indeed the only casualty was, that one of the nurse's dresses was burnt through being blown against a gas jet.

Mortality.—Our nine deaths are a small proportion out of so many cases; the particulars are as follows—

Case 13.—Forty-seven days in, severe case, had done well, a livid papular rash came out in the seventh week, accompanied with diarrhoea and hæmorrhage from the bowels, child rapidly sank.

Case 32.—One day in, very severe case, died in convulsions thirty-six hours after illness was first noticed.

Case 156.—Died a few minutes after admission; (had been removed on account of specially bad surroundings, small baker's shop).

Case 174.—Died in two days from severity of attack.

Case 210.—Ten days in, died of acute Pneumonia.

Case 233.—Thirty-two days in, sudden uræmic coma.

Case 247.—Six days in, pyæmic symptoms.

Case 251.—Thirty-three days in, Rheumatism, acute Chorea.

Case 299.—Sixteen days in, multiple abscesses.

The deaths amongst our Hospital cases were less than three per cent., amongst the remaining cases they were more than five per cent.; such comparisons are not of much use when the numbers are only three hundred and one hundred, unless details are carefully gone into; but when we consider that most of our cases were from the very poor, and nearly all the outside were amongst the comparatively well to do, I think we may a little congratulate ourselves. At the same time I must say I was greatly dissatisfied with the way our cases did in the last Quarter, in the furthest ward of the old Pavilion, and I believe it was due to the foul state of the Ward, a matter which our numbers prevented our remedying.

Five Medical Men attended their own patients in the Borough Hospital during the year.

Management.—I must again express my approval of the manner in which the Matron (Mrs. Chambers) has managed both the Institution and the patients; undoubtedly a large share of our success and popularity is due to her capacity. I think she deserves particular credit for the way in which she maintains and manages our nursing and domestic staff. It must be remembered that she engages nurses and servants by the week, and on the understanding that on any

falling off in the amount of the Hospital work they will have to leave, no matter how excellent servants they may have proved. Further, she practically trains all her own nurses, we very rarely engage a qualified nurse, Mrs. Chambers engages girls whom she considers suitable, and they learn their duties in the Hospital; this method is of course a very great economy. Now, engaging under such a disadvantage, as the above short notice, and engaging raw material, it might well be supposed that there would be great difficulty in working this department; and yet, not only can I strongly commend the way in which our nursing and other work is done; but I am sure all who have visited the Hospital must have been struck with the well-disciplined, neat and happy appearance of the staff. I am pleased to add that many of our former nurses are now in well-paid positions as trained nurses in other Infectious Hospitals.

Deficiency.—In conclusion, without in the least under estimating the value of the excellent Institution which we now possess, or the importance of the work which it enables us to do, it is my duty to point out that it is not yet a complete Infectious Hospital, inasmuch as it would not be possible to treat two diseases of any severity at the same time. We could, since opening the New Pavilion, have, even when pressed with Scarlet Fever, isolated a second disease (such as Small-pox) in the Doecker Pavilion, but now we have lost that. Our only Separation and Quarantine Wards at present are the two small wards in the wooden annexe, and these are of course only available for the treatment of one sex in each; this, which is of no consequence while only children are treated, would become a serious inconvenience with adult patients. Even this year we were considerably incommoded. We also need a few separated small wards, with accommodation for both sexes, to deal with the few occasional cases which occur of such a disease as Small-pox. Our Laundry is really too small for even the existing Institution when in full work. We have no Mortuary. Finally, our disinfecting station is quite inadequate for the work needed for the patients in the Hospital, and for the public, in times of epidemic; the stove works so slowly, (partly I think through insufficient gas

pressure) that it could hardly deal with all the articles needing disinfection, even when worked night and day; and it requires a very harassing degree of attention. A Steam Disinfector would be an immense saving of labour, and greatly increase our confidence in what we are doing.

Disinjection.—Nearly all of our disinfection has been in connection with Scarlet Fever; the Quarterly numbers of Articles of Clothing stoved have been, 1,112; 851; 2,222; 4,226; total, 8,411. The very large amount of disinfection is due to the number of cases treated at home in well to do houses, the number of articles requiring treatment after such is of course very great. Two mattresses and 23 articles of clothing were burnt. The Quarterly numbers of premises disinfected with sulphur fumes were 41, 60, 64, 115, total, 280.

VITAL STATISTICS.

The mortality of 1891 has been fearfully high throughout the country, and, from a singular combination of circumstances, Wolverhampton has been unhappily pre-eminent. The death-rate of the twenty-seven Large Towns has nearly reached the high figure of 23, and Wolverhampton has just exceeded 24; this comparison is slightly unfair to us, as our Institutions, in which many die who do not belong to the Borough, are larger, in proportion to our population, than in the average of the Large Towns. From table 8 (read the explanatory remarks on the tables before consulting the latter) we see that our present death-rate is the highest since 1875, and the heaviest years since then have been '76, '77, '78, '84, and '86. The present year and 1875 differ from the others in the absence of, at first sight, any striking cause for the mortality; in '76, rate 23·9,

Measles, Scarlet Fever, and Whooping Cough were very fatal; in '77, rate 24·3, there was a terrific epidemic of Scarlet Fever; in '78, rate 23·5, Scarlet Fever very bad; Measles terribly high; in '84, rate 23·9, and 86, rate 23 0, there was terrible fatality from Measles and Diarrhœa. The above rates are all 23 or over; 1879 and last year, 1890, are next highest with rates of 22 9 and 22 8; now the four years '75, '79, '90, and '91 have pre-eminently high death returns from "Phthisis and Chest Affections," these returns being respectively 570, 598, 664, 666; the average for ten years being 507. Of course our increased population must be taken into account in comparing figures other than rates. In '75 Whooping Cough was prevalent, in '79 Measles was very prevalent; in the late two years both of these prevailed considerably, and Influenza was also present. Table 9 shows that this year in general details resembled last, but had a much heavier Diarrhœa return; to which the excess of its rate over last year's is due. Turning to the Quarterly returns this year, we find the First Quarter, for that severe weather Quarter, is moderate. The second is appallingly high; during the close of this Quarter there was weather which, for the time of year, was exceptionally severe, and Influenza, of a most fatal type was very prevalent, especially in the West Sub-district. The Third Quarter was slightly high owing to Diarrhœa, Whooping Cough appeared. The Fourth Quarter was one of the most fatal we have ever had, and this due to the exceptional combination of circumstances already alluded to; Diarrhœa persisted during the earlier weeks; Measles and Whooping Cough were both severely prevalent; Influenza again appeared; and the weather was excessively severe and variable. The Sub-district Quarterly history is as follows:—in the First Quarter the East was high (22·6), the West low (17·0); the difference being in Respiratory Diseases; we had severe weather in January and during the last three weeks in March; and this, as usual, was most felt in the East. The fatal Second Quarter was remarkable for the lessened difference between the Sub-districts, mainly due to the greater prevalence of Influenza in the West. In the Third Quarter the Diarrhœa was most fatal in the West, but a large number of young children died in the East from Convulsions and from Phthisis (these all certified by

one medical man) and I believe these may largely be put in the same list as Diarrhœa; we have, in consequence, heavy child returns in both Sub-districts. In the Fourth Quarter Measles was mostly in the East, Influenza and Whooping Cough prevailed in both Sub-districts, the excessively severe weather would be most prejudicial in the East; the result was a very high death-rate in the West Sub-district (20·9), but in the East a rate suggestive of pestilence, 33·9; the deaths of young children and infants being more than double those in the West. We stand so high that we are peculiarly exposed to weather effects; and these are especially fatal in the East from its bleaker aspect, greater poverty, and larger child population. We had considerable distress amongst the iron-workers in the East towards the end of the year, and this probably contributed to the fatality. The Influenza Epidemic of the Second Quarter was general throughout the Country, hence in that Quarter our high fatality is not exceptional, see table 10; but during the Fourth Quarter the Influenza was much more partial in its distribution, only affecting a very few of the Large Towns then, in consequence of this, and of the simultaneous presence of Measles and Whooping Cough, and of our special liability to bad weather effects, our rate that Quarter is awfully in excess of the Large Towns, see same table.

SANITARY CONDITION OF THE BOROUGH.

There is little to add to former reports; but two topics have been raised during the year of such vital interest that I must express my opinion on them. A report of the Borough Surveyor has opened the question of a more extended adoption of some water-closet system as a substitute more or less, for our pans. The adoption of the separate system, forced upon us by the necessities of our sewage dis-

posal, and by the back poundages due to our deficient sewers, was a matter of much regret to me, as I am confident of the importance of the storm-water flush in keeping sewers clean ; but this regret was counter-balanced by the hope that the sewers would be now equal to, and available for a more general adoption of water-closets. No doubt in many properties the adoption of any water-carriage system would be difficult, perhaps impossible, through the carelessness of the tenants ; but setting these aside there remains a large number of houses, especially of the more recently built, where the water-carriage could be easily adopted. As I have frequently re-iterated, the end of most of ordinary sanitation is pure air, and this is most deficient in towns through the loss of wind-freshening effects ; hence the necessity of avoiding every cause of impurity ; the weekly removal of excrementitious matters was a great improvement on the older methods by which they were longer retained ; but the immediate removal would be a far greater improvement on the weekly. And not only as local causes of air impurity, but in the whole process of their removal the pans are, apparently of necessity, a source of much offence. I greatly deplore that the heavy water-rate for closets at present debars many from their adoption, who would be otherwise willing ; a rate not consistent with the gratuitous removal of the pans. And I still more regret that our present position appears to be such, that we must charge for a waste-water closet, even though it consumes no extra water at all ; this prohibits the adoption of a system that certainly, from a sanitary view, and apparently from an economical, would be a great advance in those properties where the system could be safely adopted.

The second matter to which I must allude is the disposal of ashpit refuse ; knowing as we now do what a favourable soil decaying vegetable matter is for the growth of certain disease germs, and knowing, as we have for long past, how deadly the ground air from decaying ashpit refuse is, its proper disposal becomes a question of paramount importance. There is really only one perfect disposal, cremation ; and this is best done by each house for its own refuse ; were the plan of drying the vegetable debris over night, and burning

it next day universally adopted, the ashpit refuse would be merely dry ashes, and absolutely harmless ; but it is difficult, especially in summer, when fruit and vegetable refuse is most abundant, to carry this out generally ; and as things now are our ashpit refuse is a collection of much decaying vegetable, and some animal matter, and a large dilution of ashes. On account, apparently, of the expense and difficulty of cartage, advantage has been taken of numerous tips in the Borough for the disposal of this refuse ; all of these tips are objectionable, some of them abominably so ; many of them have been disused clay pits, in which the refuse is water-logged ; some of them are where, or near to which, house-building is sure to be carried on. I know of instances in the Borough in which, on apparently good ground, on sinking to try its nature for building, it was found to be horribly offensive. All of this is very suggestive taken into account with the peculiar and unexplained prevalence of Typhoid Fever in certain localities. In consequence of some unusually aggravated instances, I made enquiries concerning Destructors of many towns, and the universal opinion of those using them was strongly commendatory of them as a sanitary requirement, and where the heat could be utilized as a motor power, most favourable as an economy. I would strongly urge the adoption of one, and I feel it would remove a great source of danger from our midst ; and I believe (but this is out of my province) that if it were erected in a good central situation, the saving in cartage would pay its working expenses, even if its heat could not be utilized.

NUISANCE DEPARTMENT.

This work, and the tables referring to it is fully given in the Annual Report of the Sanitary Committee ; for reasons now under the consideration of that Committee it is not what it ought to be, and we may hope for an early improvement. Much excellent work is done, but the routine is too much interrupted to progress satisfactorily.

Unwholesome Food.—Two beasts, three calves, six sheep, eleven pigs, fifty-six pounds of pork, twenty-five hares, and one bag of mussels were condemned and destroyed as unfit for food ; notice of these was given. Four carcasses of sheep, and portions of a tuberculous beast were seized by our Inspectors and destroyed under Magistrates' orders. The owner of two of the sheep was prosecuted and fined.

Explanatory Remarks on the Tables.

The Returns made by the Registrar for the East Sub-District include all deaths occurring in the General Hospital and Workhouse ; many of these are from outside the Borough, others from the West Sub-District, and others are returned as "no home" ; the particulars of these cases are all entered in Table 7. In all the Tables for the Sub-Districts the deaths are referred to where they belong, and in all the Tables only cases belonging to the Borough are entered for the last seven years, except in Table 9, where the Borough totals include "no homes," in order to compare with former years ; in Table 8 the comparison between the Sub-Districts in all years before 1884 is misleading, as the East deaths include many really belonging to the West ; the second row of figures in each year since 1884 are the corrected returns, the first row (given to compare with former years) are the returns as sent in by the Registrars.

The population of the Borough and of each Sub-District being estimated separately, the former is not the sum of the latter.

Index of Tables.

Table No. 1—Cases of Infectious Diseases heard of during the year.

„ „ 2—Weekly Returns of Births and Deaths.

„ „ 3—Weekly Returns of Deaths from various diseases.

„ „ 4—Weekly Meteorological Returns.

„ „ 5—Quarterly returns of Deaths in the East Sub-District,
classified according to ages and diseases.

„ „ 6—Ditto, ditto, in West Sub-District.

„ „ 7—Deaths during the year in the Borough, classified
according to diseases, ages, and localities.

„ „ 8—Comparative Deaths and Death-rates of the East and
West Sub-Districts for the past 18 years.

„ „ 9—Quarterly and Annual Returns of Deaths from various
diseases, &c., in the Borough, during the past 11 years.

„ „ 10—Various Quarterly Returns during the year 1891,
instituting a comparison between Wolverhampton
and other Districts.

Area of the Borough 3,440 acres.

Populations, census, April 1891 :—

East Sub-District 39,039

West Sub-District 43,583

Borough 82,622

TABLE No. 1.
Cases of Infectious Disease heard of in 1891.

	EAST SUB-DISTRICT, POPULATION 39,050					WEST SUB-DISTRICT POPULATION 43,757					BOROUGH, POPULATION 82,801					TOTALS			RATE PER 10,000 OF POPULATION.		
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year	East Sub-District	West Sub-District	Borough	East Sub-District	West Sub-District	Borough
Measles ... { Under 5 years... 5 yrs. & upwards	20	1	2	132	155	19	2	4	38	63	39	3	6	170	218	251	112	363	64.2	25.6	43.8
Scarlet Fever ... { Under 5 years... 5 yrs. & upwards	11	1	1	83	96	23	...	4	22	49	34	1	5	105	145	154	265	419	39.4	60.5	50.6
Diphtheria { Under 5 years... 5 yrs. & upwards	...	2	...	1	3	...	1	2	2	5	...	3	2	3	8	8	25	33	20	5.7	3.9
Typhoid Fever ... { Under 5 years... 5 yrs. & upwards	1	1	...	...	2	...	...	2	2	4	1	1	2	2	6	34	64	98	8.7	14.6	11.8

TABLE No. 2.
Weekly RETURN of BIRTHS and DEATHS during 1891.

1891		BIRTHS												DEATHS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		East Sub-District				West Sub-District				Borough				East Sub-District								West Sub-District								Borough								In Public Institutions		Total in Hospital	Total in Workhouse																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		Males	Females	Total	Rate per 1000 per annum	Males	Females	Total	Rate per 1000 per annum	Males	Females	Total	Rate per 1000 per annum	Over 60 years	Under 1 year	Under 5 years	Uncertified	Inquests	Males	Females	Total	Rate per 1000 per annum	Over 60 years	Under 1 year	Under 5 years	Uncertified	Inquests	Males	Females	Total	Rate per 1000 per annum	Over 60 years	Under 1 year	Under 5 years	Uncertified	Inquests	Not belonging to Borough	No Home	Belonging to West Sub-Dist.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Week ending																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

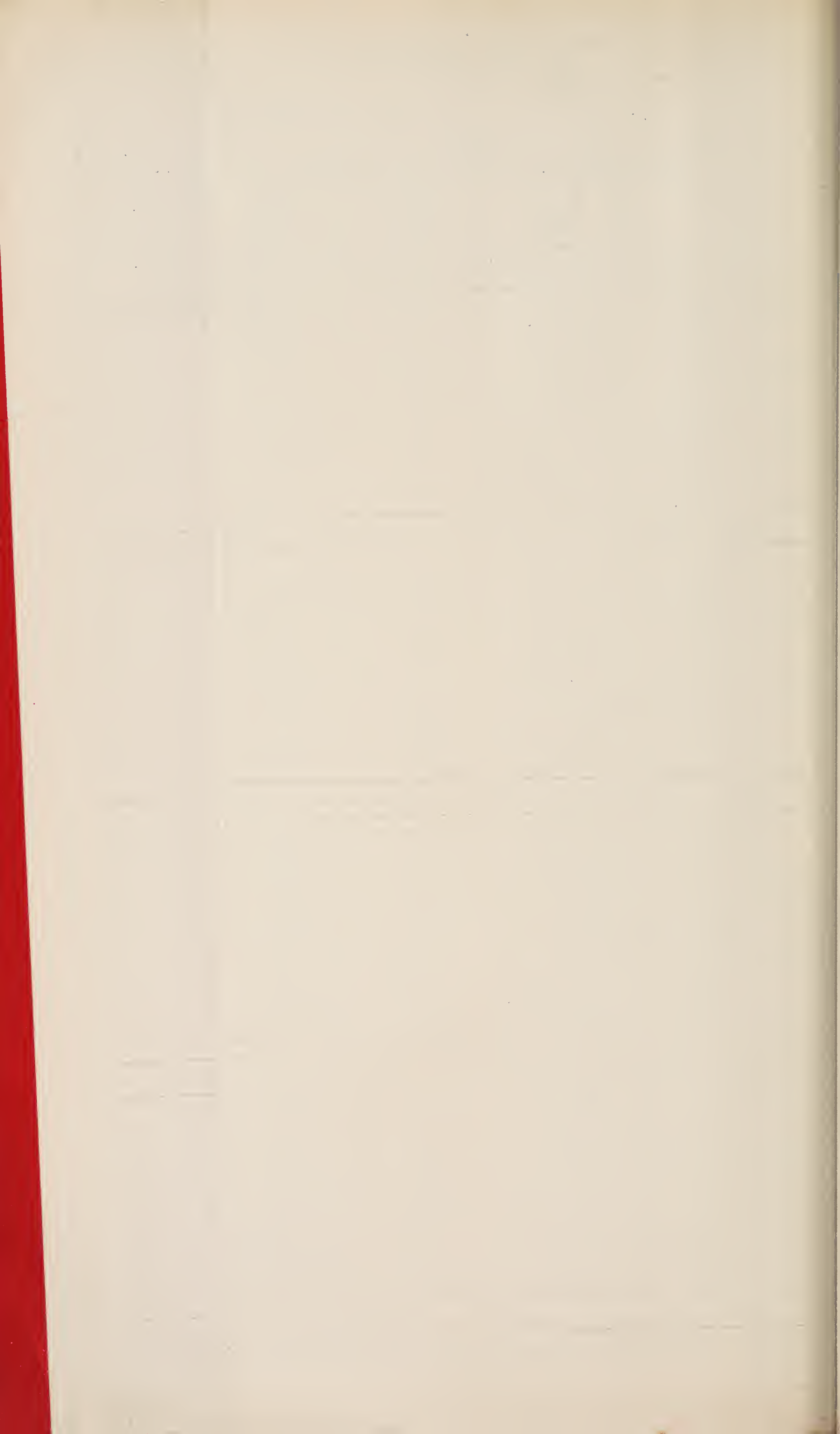


TABLE No. 3—Weekly Returns of Deaths from various Diseases in the Sub-Districts.

[illegible]

TABLE No. 4.
WEEKLY METEOROLOGICAL REPORT,
From observations taken at the Park Meteorological Station at 9 a.m. daily.
(Height above Sea Level, 430.25 feet. Receiving surface of rain gauge, 1ft. above ground.)

Week ending	Barometer Uncorrected.			Average Humidity.	Temperature.				Rain.	Wind.		
	Highest.	Lowest.	Att. Ther.		Max.	Min.	Mean.	Earth.		Prevailing Directions.	Total in Week.	
								1-ft.				4-ft.
1891	In.	In.	0	0-100	0	0	0	0	In.	Miles.		
January 10th	30.050	29.050	40	87	36.5	12.5	26.8	35.2	40.5	N, SW	1265	
" 17th	30.250	29.700	40	92	41.0	15.0	29.5	34.0	40.5	N	1020	
" 24th	30.000	29.000	40	89	47.0	12.0	30.9	34.2	40.0	SW, N, SW	1380	
" 31st	29.550	29.350	40	90	50.0	32.0	41.2	35.8	40.0	S, S, SW	1790	
February 7th	30.250	29.750	45	91	51.0	31.7	40.9	39.5	40.0	SW, NW	1180	
" 14th	30.200	29.850	45	92	48.0	31.0	38.5	40.4	40.0	SW, N	1065	
" 21st	30.250	29.950	45	91	54.5	24.0	36.3	38.8	40.5	SW, NW, SE	510	
" 28th	30.100	29.550	45	90	60.5	24.0	40.1	37.0	41.0	SE, S	555	
March 7th	29.880	29.300	50	86	62.5	32.7	44.2	41.0	41.2	SW, W	2201	
" 14th	29.440	29.000	40	89	41.8	12.1	29.6	38.4	41.9	NW, NE, N	*941	
" 21st	29.500	28.900	40	85	50.0	27.0	35.3	37.2	41.5	SE, NE, N	551	
" 28th	29.530	29.140	40	84	52.0	26.4	37.3	39.5	41.7	SW, NW	2150	
April 4th	29.530	29.200	40	86	50.1	24.0	36.0	40.3	42.1	NW, SE, SE	1868	
" 11th	29.740	29.100	45	91	57.0	27.1	39.6	42.2	42.4	NW, N, NE	1544	
" 18th	29.750	29.630	45	74	54.0	27.1	39.6	42.6	42.8	NW, NW, SE	1105	
" 25th	29.830	29.700	45	79	54.0	29.4	40.3	44.5	43.4	E, E, NE	1654	
May 2nd	29.600	29.030	50	76	62.0	30.2	45.5	46.3	44.1	SE, SW, SW	1802	
" 9th	29.730	29.200	55	78	64.0	36.3	46.9	49.0	45.0	SW, SE	1360	
" 16th	29.850	29.340	60	74	75.0	33.8	50.0	52.8	46.3	NE, N, NW	1703	
" 23rd	29.320	28.940	45	78	57.3	30.0	41.0	50.1	47.7	NW, NE, SW	1057	
" 30th	29.350	29.120	50	85	61.0	35.1	44.4	49.9	47.7	N, W, SW	1356	
June 6th	29.540	29.330	55	86	69.7	41.3	53.1	54.7	48.3	S, E, E, NE	1745	
" 13th	29.920	29.500	55	73	69.2	38.8	50.5	54.4	49.3	NE, NE, NW	1239	
" 20th	29.950	29.600	65	80	76.0	46.8	57.5	58.9	50.7	NW, SW	1037	
" 27th	29.940	29.410	60	87	73.9	45.8	57.9	60.7	52.1	NE, NE, S	1703	
July 4th	29.540	29.330	60	77	69.0	46.5	56.8	59.9	52.9	SW, S	1362	
" 11th	29.750	29.220	60	82	67.7	44.5	54.3	60.1	53.3	SW, NW	1421	
" 18th	29.920	29.450	60	73	75.8	46.3	59.2	61.7	54.0	NE, SW	876	
" 25th	29.750	29.450	60	83	69.8	47.5	56.4	60.9	54.7	SW, W, NW	1525	
August 1st	29.720	29.250	60	84	70.2	41.8	53.1	59.7	54.8	NW	1368	
" 8th	29.750	29.200	60	85	69.2	42.5	55.2	59.2	55.0	SW, N, N	1315	
" 15th	29.630	29.380	60	83	70.7	48.5	57.7	59.9	54.9	NW, W	1560	
" 22nd	29.600	29.020	60	81	67.9	43.8	54.0	57.9	55.1	S, NW	1405	
" 29th	29.480	29.040	60	84	64.3	41.4	53.3	57.9	55.0	SW	2445	
September 5th	29.730	28.970	60	80	63.5	40.0	53.1	56.9	54.8	SW, SW, S	2060	
" 12th	29.770	29.510	65	78	79.0	42.8	59.9	57.8	54.5	SW, S	880	
" 19th	29.900	29.370	60	89	80.9	44.2	56.4	58.3	54.8	SW	1196	
" 26th	29.750	29.300	55	92	61.9	43.0	51.7	56.3	54.8	S, NW, SW	1517	
October 3rd	29.760	29.110	55	90	67.0	39.8	51.4	54.6	54.2	SW	1561	
" 10th	29.810	28.870	55	93	60.3	42.1	50.7	53.4	53.6	S	1675	
" 17th	29.300	28.860	50	90	57.0	40.0	47.2	51.3	53.0	S, SW	2036	
" 24th	29.620	28.710	50	94	56.0	39.4	47.1	49.3	52.1	SW, NW	1373	
" 31st	30.230	29.420	45	95	51.0	27.0	40.5	47.3	51.4	NE, E	1573	
November 7th	30.220	30.020	50	97	51.7	32.5	41.8	45.8	50.3	E, NE	906	
" 14th	29.690	28.100	45	93	52.0	27.9	41.1	44.5	49.4	SW, S, SE	2031	
" 21st	29.520	28.840	50	95	54.2	34.7	43.6	45.4	48.5	NE, SE, S	1315	
" 28th	29.460	29.230	40	96	44.3	22.9	33.9	40.5	48.0	NW, SE	896	
December 5th	29.600	28.960	50	97	55.2	23.7	43.1	42.0	46.5	S, SW	2312	
" 12th	29.620	28.600	50	90	51.0	30.9	42.2	43.2	46.4	SW, S, NW	*1480	
" 19th	30.150	28.600	40	91	51.0	25.0	36.7	41.1	46.1	NW, S	1375	
" 26th	30.580	29.300	40	97	46.1	11.5	27.1	35.9	44.8	S, S, SW	*580	
Jan. 2nd, 1892	29.760	29.050	45	91	53.2	30.1	38.4	37.4	43.6	SW, W	1965	

Rainfall for the year, 29.10 inches. * Seven days of wind are missing in the fortnight ending March 21st, four days in the week ending December 12th, and two days in the week ending December 26th, through anemometer being out of order.



Quarterly Return of Deaths in the East Sub-District, during the year 1891, classified according to Ages and Diseases.

VIII—Ill-defined and Not Specified Causes.



TABLE No. 6.

Quarterly Return of Deaths in the West Sub-District, during the year 1891, classified according to Ages and Diseases.

1891.										QUARTER ENDING APRIL 4TH.										QUARTER ENDING JULY 4TH.										QUARTER ENDING OCTOBER 3RD.										QUARTER ENDING JANUARY 2ND, 1892.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
All Ages.										0 1 5 15 25 60 75 and upwards Totals.										0 1 5 15 25 60 75 and upwards Totals.										0 1 5 15 25 60 75 and upwards Totals.										0 1 5 15 25 60 75 and upwards Totals.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
I—Zymotic Diseases ..										122	4	2	2	2	3	..	13	5	2	25	8	5	2	25	1	53	6	13	6	3	1	1	1	31																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
II—Diabetic Diseases ..										4	1	1</



TABLE No. 7.

TABLE OF DEATHS during the Year 1891, in the Sanitary District of WOLVERHAMPTON; classified according to DISEASES, AGES, AND LOCALITIES.
showing also the Population of such Localities, and the Births therein during the Year, and the proportion of Deaths which occurred in Public Institutions.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; public institutions being shown as separate Localities.		Population at all ages.		Registered Births.	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.								MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																													
					At all Ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards	(i)	2	3	6	7	9	11	12	13	14	15	17	18	19	20	21	22														
		Scarlatina.	Diphtheria.																										FEVERS.			Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	TOTAL.
																													Enteric or Typhoid	Continued	Puerperal.											
(a)		Census, 1891.	Estimated to middle of 1891.		(b)	(c)	(d)	(e)	(f)	(g)	(h)																															
(A)	East Sub-District	39,039	39,050	1,507	1,010	310	170	40	45	229	216	{ Under 5 years	3	...	1	..	...	...	15	11	53	...	39	111	...	6	241	480											
												{ 5 years and upwds.	4	1	5	..	3	1	3	...	1	2	57	148	41	26	238	530														
(B)	West Sub-District	43,583	43,757	1,313	888	220	116	43	38	208	263	{ Under 5 years	1	2	1	...	...	2	6	13	48	...	1	78	1	4	179	336												
												{ 5 years and upwds.	6	2	8	1	2	1	1	2	3	...	52	126	53	7	288	552														
(C)	TOTAL IN BOROUGH	82,622	82,801	2,820	1,898	530	286	83	83	437	479	{ Under 5 years	4	2	2	...	..	2	21	24	101	...	40	189	1	10	420	816												
												{ 5 years and upwds.	10	3	13	1	5	2	4	2	4	2	109	274	94	33	526	1082														
(D)	General Hospital ... ..	...	..	..	164	9	17	19	16	84	19	{ Under 5 years	1	...	...	...	...	...	...	1	1	...	...	1	...	10	12	26			
												{ 5 years and upwds.	...	...	7	...	1	1	..	..	..	...	13	27	19	20	50	138								
(E)	Workhouse ... ..	...	..	..	178	9	4	...	4	46	115	{ Under 5 years ... ..	...	..	...	..	8	...	...	...	...	...	4	...	...	...	9	13
												{ 5 years and upwds.	...	..	1	...	1	1	..	...	...	...	22	16	10	...	114	165								
(F)	Deaths occurring in Public Institutions in the East Sub-District and not belonging to the Borough ... }	...	...	...	122	5	4	6	4	55	48	{ Under 5 years .. ..	...	...	...	...	...	...	...	...	...	...	2	..	...	2	5	9
												{ 5 years and upwds.	...	...	2	...	1	1	...	...	...	...	10	19	8	10	62	113								
(G)	Deaths occurring in Public Institutions in the East Sub-District and entered as 'no home' ... }	..	...	...	16	1	1	...	...	2	12	{ Under 5 years .. ..	..	...	...	...	..	...	..	...	...	...	...	...	1	1	...	2
												{ 5 years and upwds.	...	...	...	..	..	...	...	...	...	...	1	1	...	...	12	14		
(H)	Deaths occurring in Public Institutions in the East Sub-District and belonging to the West Sub-District }	...	...	...	66	3	4	5	8	26	20	{ Under 5 years ... ..	...	...	...	...	...	...	...	...	...	...	1	...	...	2	4	7
												{ 5 years and upwds.	...	...	3	...	...	1	...	...	..	...	9	5	7	3	31	59						

T. 100		S. 100		T. 100		S. 100	
				</			

TABLE No 8
COMPARATIVE DEATHS AND DEATH RATES of the East and West
Sub-Districts for the past Nineteen Years

Year	EAST SUB-DISTRICT				WEST SUB-DISTRICT.				BOROUGH				Estimated population at the middle of the year		
	Number of Deaths	Rate per 1,000	Zymotic Deaths	Rate per 1000	Number of Deaths	Rate per 1000	Zymotic Deaths	Rate per 1000	Number of Deaths	Rate per 1000	Zymotic Deaths	Rate per 1000	East	West	Borough
1873	1,125	29.7	...	...	631	19.8	...	...	1,756	25.1	...	...	38,010	31,841	69,906
1874	1,048	27.6	...	...	627	19.3	...	...	1,675	23.6	...	...	38,087	32,487	70,636
1875	1,155	30.3	...	...	640	19.3	...	...	1,795	25.2	...	...	38,163	33,140	71,373
*1876	1,099	28.2	...	...	655	19.0	...	...	1,754	23.9	...	...	38,241	33,806	72,118
1877	1,157	30.2	...	...	611	17.7	...	...	1,768	24.3	...	...	38,318	34,485	72,871
1878	1,081	28.2	...	...	644	18.3	...	...	1,725	23.5	...	...	38,396	35,178	73,632
1879	1,093	28.5	...	...	608	17.0	...	...	1,701	22.9	...	...	38,474	35,884	74,402
1880	960	24.9	...	...	629	17.2	...	...	1,589	21.2	...	...	38,552	36,606	75,178
*1881	998	25.4	...	...	650	17.1	...	...	1,648	21.3	...	...	38,620	37,304	75,930
1882	1,056	27.4	...	...	657	17.3	...	...	1,713	22.4	...	...	38,663	37,904	76,591
1883	1,042	27.0	...	...	601	15.6	...	...	1,643	21.3	...	...	38,706	38,514	77,257
1884	1,158 954	29.9 24.7	221	5.7	699 753	17.9 19.3	115	2.9	1,857 1,707	23.9 21.9	336	4.3	38,749	39,133	77,930
*1885	1,012 813	25.6 20.6	102	2.5	658 720	16.2 17.8	74	1.8	1,670 1,553	20.9 19.2	176	2.2	38,792	39,762	78,607
1886	1,125 933	29.0 24.1	182	4.7	697 746	17.3 18.5	156	3.8	1,822 1,679	23.0 21.2	338	4.2	38,835	40,402	79,291
1887	1,133 918	29.2 23.6	122	3.1	659 720	16.1 17.5	102	2.4	1,792 1,638	22.4 20.5	224	2.8	38,878	41,051	79,981
1888	1,005 812	25.8 20.9	95	2.4	707 768	17.0 18.5	121	2.9	1,712 1,580	21.2 19.6	216	2.6	38,920	41,712	80,677
1889	1,065 872	27.4 22.4	103	2.6	674 737	15.9 17.4	102	2.4	1,739 1,609	21.4 19.8	205	2.5	38,963	42,383	81,379
1890	1,183 957	29.8 24.1	98	2.4	725 795	16.5 18.1	80	1.8	1,908 1,752	22.8 21.0	178	2.1	39,006	43,064	82,087
1891	1,214 1,010	31.1 25.9	120	3.0	822 888	18.8 20.3	122	2.7	2,036 1,898	24.6 23.0	242	2.9	39,050	43,757	82,801

* These years contained 53 weeks

For explanations see remarks at the end of the text.



TABLE No. 9.

[illegible]

† These include returns made as "no home."

* These Quarters contained 14 weeks, and the Years 53.

† After this year only deaths belonging to the Borough are included under the diseases and the different ages.

TABLE No. 10.

TWENTY-SEVEN LARGE TOWNS POPULATION, 5,183,656					WOLVERHAMPTON, POPULATION, 82,801.			
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
Total Number of Deaths	32,205	36,300	23,982	28,059	440	559	416	582
Rate per 1000 per annum of Total Deaths	23.4	28.1	18.6	21.7	21.0	27.1	20.2	28.2
Deaths from Zymotics	0.9	2.2	2.8	2.3	2.5	0.7	3.7	3.6
Deaths from Zymotics	3,424	2,915	3,646	3,008	19	15	76	74
Measles	1,338	856	299	616	5	...	...	20
Scarlet Fever	371	228	214	288	2	2	2	8
Diarrhoea	305	360	2,262	770	5	8	63	21
Rate per cent, of Uncertified Deaths	2.9	2.4	2.5	2.8	1.1	0.9	1.2	1.0
Deaths under 1 year of age per 1000 Births	159	176	193	180	130	164	243	229
EAST SUB-DISTRICT, POPULATION, 39,050.					WEST SUB-DISTRICT, POPULATION, 43,757.			
Total Number of Deaths	222	258	200	330	193	275	192	228
Rate per 1000 per annum of Total Deaths	22.8	26.5	20.5	33.9	17.7	25.2	17.6	20.9
Deaths from Zymotics	1.1	1.6	3.5	5.9	1.1	2.2	4.8	2.8
Deaths from Zymotics	11	16	35	58	13	25	53	31
Measles	3	...	...	15	2	...	...	5
Scarlet Fever	1	2	1	3	1	1	1	5
Diarrhoea	3	1	29	21	4	2	37	6
Death Rate per 1000 per annum, England and Wales	...	...	...	...	21.5	23.7	15.9	19.3
" " " Urban Districts	...	...	...	...	21.5	24.7	16.8	20.3
" " " Rural Districts	...	...	...	...	20.9	21.7	14.2	17.6

The above returns for Wolverhampton are taken from the Registrar General's, and include deaths not belonging to it; our rates for the quarters are at most 20·2, 25·9, 19·3, and 27·1; these include deaths returned as "no home."

